

CLAIMS

What is claimed is:

1. An apparatus for cleaning a semi-conductor wafer carrier having an interior surface and an exterior surface, the apparatus comprising:

5 a base portion having a first aperture and a second aperture, the base configured to support a wafer carrier about the first aperture;

a first fluidic circuit; and,

a second fluidic circuit;

10 wherein the first fluidic circuit circulates fluid between the first aperture and the interior surfaces of a wafer carrier and the second fluidic circuit circulates fluid between the second aperture and the exterior surfaces of a wafer carrier to remove contaminants from the interior and exterior surfaces of a wafer carrier, the base portion configured to substantially isolate the first fluidic circuit from the second fluidic circuit.

15 2. The apparatus of claim 1, wherein the first fluidic circuit includes a first applicator for directing fluid onto the interior surfaces of a wafer carrier, and the second fluidic circuit includes a second applicator for directing fluid onto the exterior surface of a wafer carrier.

20 3. The apparatus of claim 2, wherein the first and second applicators are sprayers.

4. The apparatus of claim 3, wherein the first and second sprayers move with respect to the wafer carrier.

5. The apparatus of claim 4, the base further comprising sidewalls, and a rear wall connected to the base portion.

6. The apparatus of claim 5, further comprising a cover sealingly connectable to the base and movable to permit access therein.

7. The apparatus of claim 1, the base portion further comprising a third aperture, the base configured to support a wafer carrier door holding fixture in contact about the third aperture, wherein the first fluidic circuit circulates fluid between the first and third apertures and the interior surfaces of a wafer carrier and a wafer carrier door holding fixture and the second fluidic circuit circulates fluid between the second aperture and the exterior surfaces of a wafer carrier and a wafer carrier door holding fixture to remove contaminants from the interior and exterior surfaces of a wafer carrier and a wafer carrier door.

8. The apparatus of claim 7, wherein the first and second applicators are sprayers.

9. The apparatus of claim 8, wherein the first and second sprayers move with respect to the wafer carrier and the wafer carrier door holding fixture.

10. An apparatus for cleaning a semi-conductor wafer carrier having an interior surface and an exterior surface, and a wafer carrier door having an inside surface and an outside surface, the apparatus comprising:

a base and one or more wash bays disposed in the base, each wash bay comprising a container cleaning assembly; and a door cleaning assembly, wherein a first cleaning fluid is used to clean the interior surface of the carrier and the inside surface of the door, and a second cleaning fluid is used to clean the exterior surface of the carrier and the outside surface of the door, the wash bays configured to substantially prevent communication of the second fluid with the first fluid.

11. The apparatus of claim 10, wherein the first cleaning fluid and the second cleaning fluid each have the same chemical properties.

12. The apparatus of claim 10, wherein the first cleaning fluid and the second cleaning fluid each have different chemical properties.

13. The apparatus of claim 10, wherein the base includes a fluid leakage detector disposed therein.

14. The apparatus of claim 10, wherein the container cleaning assembly is configured to permit varying dwell time.

15. The apparatus of claim 10, wherein the door cleaning assembly is configured to permit varying dwell time.

Sub 13 16. The apparatus of claim 10, wherein the container cleaning assembly includes an ionizer for introducing ionized air into the interior surface of the wafer carrier.

17. The apparatus of claim 10, wherein the interior surface of the wafer carrier is maintained  
5 at a pressure higher than the exterior surface of the wafer carrier.

Sub C3 18. The apparatus of claim 17, wherein the container cleaning assembly includes a ridge configured to substantially isolate the first fluidic circuit from the second fluidic circuit.

10 19. The apparatus of claim 10, further comprising closure releasably mounted to the base and configured to form a fluid tight seal at an interface between the closure and base.

20. The apparatus of claim 19, wherein the base includes a closure sensor for detecting a breach of the fluid tight seal during operation.

15 21. An apparatus for cleaning a semi-conductor wafer carrier having an interior surface and an exterior surface, the apparatus comprising: a base portion including a first fluidic circuit and a second fluidic circuit, the first fluidic circuit in communication with the interior surface of the carrier and the second fluidic circuit in communication with the exterior surface of the wafer  
20 carrier, the first fluidic circuit substantially isolated from the second fluidic circuit.

22. An apparatus for cleaning a semi-conductor wafer carrier having an interior surface and an exterior surface, the apparatus comprising: a base portion including a first fluidic circuit and a

second fluidic circuit, a means for substantially isolating the first fluidic circuit from the second fluidic circuit.

Sub 23  
23. The apparatus of claim 22, wherein the means for isolating includes a means for  
5 mechanically isolating the first fluidic circuit from the second fluidic circuit.

24. The apparatus of claim 22, wherein the means for isolating includes a means for  
pneumatically isolating the first fluidic circuit from the second fluidic circuit.

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